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PAPER • **OPEN ACCESS**

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To cite this article: Bukola Adewale *et al* 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **665** 012017

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Abstract submission due: April 9

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IMPACT OF CLASSROOM ENVIRONMENTS' ON THE ACADEMIC PERFORMANCE OF ARCHITECTURE STUDENTS IN COVENANT UNIVERSITY

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Abstract. Nigerian Schools of Architecture face the various challenges of out-dated design, declining conditions, and capacity utilisation pressures. The effects of these conditions are threats to the academic performance of the students. The study aimed at investigating the impact the learning environment has on the academic performance of students of Architecture at Covenant University, Ota, Ogun State, Nigeria. This research made use of quantitative and qualitative research approach. Data was collected through a structured questionnaire, and the IBM SPSS (Statistical Package for Social Sciences) was used for analysis. Results show that the classroom environment has effects on students' academic performance. This is due to their satisfaction and comfort in the learning environment. Findings also show that the comfort derived from facilities and physical components within the classroom affects their academic performance. Although the research findings have shown that the physical components of the classroom learning environment had no direct impact on the students' academic performance, based on the research it is recommended that visual learning aid should be maximised. Also, the classroom facilities should be improved to encourage students to make use of their classrooms. Further, the physical components classroom environment affects but does not have a direct impact on students' academic performance; however, the perception of students on these components should be explored to create a comfortable classroom environment.

Keyword: Academic Performance, Architecture Students, Classroom, Learning Environment, Ogun state, Satisfaction.

1. Introduction

The variety of physical locations, cultures and contexts in which students learn is referred to as the Learning environment. The term is often utilised as a more accurate, favoured, or preferred alternative to classroom, which has more constrained and conventional connotations—a room with rows of tables and chairs and a chalkboard, for instance, since students may learn in a wide assortment of settings, such as locations outside schools and outdoor environments (Thamarasseri, 2017). This definition recognises that students learn in various ways in very diverse contexts. Since students must learn, the aim is to create an amassed learning environment that optimises students learning abilities. There is no single ideal learning environment. What makes teaching so interesting is that there is a limitless number of potential learning environments (Thamarasseri, 2017). The school is an established institution and a vehicle for formal education. A pleasant school environment presents learning as a lifelong enterprise and allows students to discover appropriate value systems that can be their compass for national consciousness and self-awareness (Afoma & Christy, 2014). Learning occurs in various settings; learning environments can either be Unstructured or Structured. In Structured environments, both Formal education and Non-formal education occur majorly in the form of institutions (community centres, schools and so on); in contrast, informal learning occurs in both Structured and Unstructured environments. The individual determinant of the academic achievement of students is not Intelligence. Often, if not always, the various learning environment components



are associated with the students' academic success. Contemporary learners deserve learning spaces that meet their individual needs, as well as collective needs. To meet these criteria, educational leaders must provide cultural and physical environments that are engaging and empowering.

Nigerian Schools of Architecture face the various challenges of out-dated design, declining conditions, and capacity utilisation pressures. The effects of these conditions are threats to the academic performance of the students. Other issues facing the learning environment in Schools of Architecture in Southern Nigeria are Over-crowding, poor and inadequate facilities, and traditional teaching Styles. Today's learners have rendered the traditional classroom out of date since it customarily features students sitting in rows of desks while the teacher stands in the front of the room at a chalkboard or whiteboard. In an ideal world, the physical environment of a learning space should advance learning, improve academic performance, and facilitate appropriate behaviour within students. Although various studies have shown that the students' perception of their surroundings profoundly affects their performance, no study shows the impact of these surrounding on the academic performance; hence, this study aims at thoroughly assessing the physical environment of classrooms and design studios to make improvements that will benefit the teaching and learning of the students.

This study would answer the following research questions: i) what are the existing conditions of the learning environment? ii) how is the academic performance of students? iii) Does the type of learning environment within which Architecture students learn have any impact on the quality of their academic performance and how they approach learning? Based on the research questions, the purpose of this study was to achieve the following objectives:

- i. To examine the existing conditions of the learning environment of the selected university.
- ii. To examine the academic performance of the students of the selected university.
- iii. To establish a relationship between the learning conditions and academic performance of students.

The study contributed to the improvement of facilities and the use of visual learning aid should be maximized.

2. Literature review

2.1 Context of study

A learning environment is often referred to as a classroom climate because ambience, mood, atmosphere, ecology and scene are considered when studying the learning environment. According to Ibem, Alagbe, and Owoseni (2017), the learning environment consists of psychological aspects and physical aspects of its immediate surrounding. The psychological aspect which has to do with the way humans behave, think and feel in that immediate environment, while the physical aspect has to do with the impact in which human behaves, thinks and feels. (Ibem, Alagbe, & Owoseni, 2017). However, learning environment, as defined by Mick Zais (2011), is the extent to which a place of learning promotes the health and safety of the users. The learning environment in institutions is environments or spaces where the students receive lectures. Learning environments in institutions should be conducive and comfortable. For architecture student, the primary learning environment is the architectural design studio. A design studio is usually a place where students in architecture obtain knowledge related to architecture. According to Oluwatayo, Aderonmu and Aduwo (2015), the learning space where students expend most time getting instructions, networking with lecturers and fellow students are in the studio. A studio is, however, a place of various interactions and networking, which organises the learning experience of the students. The learning experiences of the students may, however, go beyond the studio. (Oluwatayo, Aderonmu, & Aduwo, 2015). Many Schools of architecture in Nigeria have outdated designs and declining conditions. School in Ogun state

have a problem of overcrowding, inadequate facilities and traditional teaching style. Covenant University is an institution founded on the 21st of October, 2002, by a Christian institution. It is located in Canaan land, Ota, Ogun State, Nigeria. The institution has numerous facilities in it. One of those facilities has a school of architecture. It runs both undergraduate and postgraduate program.

2.2 Academic performance: theoretical framework

Architecture students take a variety of courses ranging from history, building science, materials and structures to building designs. They are required to learn, comprehend and pass these courses to be able to practice (Oluwatayo, Aderonmu, & Aduwo, 2015). Often, academic performance and academic outcomes are used interchangeably in research. Academic performance is the achievement of a person in an educational course. Academic success refers to a phenomenon that fuses academic performance, the outcome of learning objectives, persistence, procurement of desired competencies and skills, fulfilment, and performance after college (York, Gibson, & Rankin, 2015). Academic performance of students, as stated by Opoko, Oluwatayo, and Ezema, (2016), measures the degree to which a student has been able to attain the educational set-goal. Academic success is vital in achieving the objectives and knowledge during the learning process. Hence, the need to understand the various environmental factors affecting the academic performance (and thus, the academic success) of students of Architecture. Many factors constitute the classroom environment: time factor, acoustic factor, visual factor, spatial factor, thermal factor and facilities. According to York, Gibson, & Rankin (2015), the spatial factor, which is classroom arrangement, seating positions and space management, in general, has a more significant impact on the students' level of understanding, and consequently, their academic performance, as it affects the core of teaching and learning – communication. It is suggested, hence, that the classroom environment should be equipped, well-organised and facilitated. Students' performance is also affected grossly by the spatial attributes and ambient attributes of the classroom which are influenced by the design, management, and, after that, maintenance of the same (Zheng, Burcin, & Laura, December 2013).

2.3 Classroom environment and academic performance: A review of studies

The learning environment, as defined by Mick Zais (2011), simply is the extent to which school students promote the health and safety of students, which may include the academic environment, the physical plant, mental and physical health services and supports available and the adequacy and fairness of disciplinary procedures, as supported by the research of relevance. On the academic success of undergraduate and postgraduate students, a significant amount of literature has been published. The review of the various literature on the academic success of students has led to the conclusion numerous factors affect the academic success of university students. Qaiser and Ishtiaq (2014) assert that what plays a significant role in any activity and makes it more conducive, achievable, and successful is the physical environment. Many factors constitute the classroom environment: acoustic factor, visual factor, lighting factor, spatial factor, ventilation system, and facilities and teaching aids.

Acoustics deals with sound and how it affects the learning process. However, noise is whatever that obstructs the learning process. Noise destabilises comprehension, writing, reading skills and academic performance in the long run, as it deters concentration and importance on the task (Disarrio, Schowalter, & Grassa, 2002). As a component of their study, Chiang and Lai (2008) reviewed past findings on the harmful effect noise has on the psychological and physical well-being. From a plethora of certifiable effects, the accompanying negative results were accounted for particularly with regards to a noisy room: becoming worn out, hence, a declined level of efficiency; increased heart rate; loss of appetite; sleep deprivation, i.e. insomnia; headaches; tinnitus; dyspepsia; and facial pallor. During school sessions, students are exposed to all sorts of noise ranging from environmental noise to classroom noise. Previous research carried out by Shield and Dockrell (2008) shows that noise has a detrimental impact on students' academic performance. Noise is an everyday influencer of human performance. Chiang and Lai

(2008) studied and distinguished a few of the adverse outcomes of working in a noisy room, with an emphasis on young children. They assert that noise influences the health of the occupants in addition to their academic performance. Apart from noise generated from such poorly maintained equipment, a significant problem is an intrusive noise from adjoining classrooms, reducing voice clarity, privacy and causing dissatisfaction and distraction to students as well as teachers during delivery of lectures, consequently having a detrimental impact on student learning outcomes (Shield, et al, 2010). Students who often lose the substance of the lectures, because of poor interior acoustics, are susceptible to poor academic performance. Following this, it has been demonstrated that indoor classrooms noise levels are mostly linked to and identified with academic performance with controlled socioeconomic factor. The noise level is an alternatively important subject that has acoustical effects on students' academic performance. The researchers, Zannin and Marcon (2007) discovered in their study that teachers, as well as the students, recognised that a significant source of distraction and disruption for them was noise in the classroom.

Visual factors that influence students' academic performance include colour and lighting. Colour is the trait of human visual recognition characterised through colour classes, with names. This impression of colour emerges from the goad of cone cells in the human eye by electromagnetic radiation in the range of light. Colour arrangements and physical portrayals of colour are connected with objects through the wavelength of the light that is reflected from them. According to the Dictionary of Architecture and Building Construction, This reflection is regulated by the question's physical properties. It is the visual sensation of rays, transmission and reflection of light from one or a mixture of parts of the visible spectrum on the human eye (Nikolas & Erkki, 2008). Colour is an aspect of visual stimulation in the physical environment of the design studio, and this suggests that colour has some similarity with psychology in the area of the level of arousal. When colour is perceived, it invokes pleasure and activity. It has been established that when an individual takes a look at specific colour or imagines a colour, certain reactions happen in his or her mind. Different colour produces various stimulations in the mind of humans, depending on the age of the individual. Performance on more tasking assignments, i.e. the reading task was impacted by the colour of the surrounding environment. Further findings demonstrated that the least performance on intellectually tasking or psychologically demanding tasks was in a classroom with red coloured walls. For the colour of a space to be appreciated there has to be some level of adequate lighting.

Lighting amongst other elements that constitute the design of spaces is a crucial and essential factor in designing spaces within a building, most especially spaces for learning such as the architectural design studio in this area of research. Nevertheless, there are different kinds of lighting, from natural daylighting to artificial lighting. The form of lighting that is most suitable for the architectural studio as it relates to the user satisfaction has not yet been discovered, but it has been maintained that natural daylighting offers the most positive effect and produces biological effects on humans' body. (Earthman 2004; Hescong Mahone Group, 1975). According to Benya (2001), for lighting to be very adequate, daylighting must be complemented with artificial lighting, which is electric bulb amongst other that dims in response to daylight level.

Similarly, Bernett & McCormick, (2003) said that a sound lighting system within a learning environment like the studio could only be attained through the combination of direct and indirect lighting. Light is crucial to the general well-being of persons that regularly make use of a physical facility over a significant percentage of the day. Lighting is not frequently considered, but it plays a crucial role in enhancing spaces for functionality and wellness. Luckey, (2014) in his talk on how to increase productivity with lighting pointed out the importance of smart lighting within the workstations of educational facilities. Just as workstation pattern is most adequate when it works with the building structure, establishing and designing a lighting scheme that is associated with the space plan and functional organisation will culminate in enhancing both the lighting system and total performance of the environment. (Luckey, 2014). Luckey

2(014) further opined that the small details of the users' workspace can make a massive change in the users, hence affecting their academic performance.

Seat arrangement is argued to be a powerful means to control the physical attributes of the classroom diligently and efficiently to guarantee excellent student performance, as well as teachers. The findings of Shamaki (2015) demonstrate that the state of sitting facilities, or the lack thereof and sitting arrangement in classrooms affects students' level of interest on the subject matter. Also, students who learn in an overcrowded classroom are more likely to perform worse than their counterparts in classrooms with fewer students. Rosenfield et al. (1985) researched on and tested the effect of desk and seat arrangement on students' behaviour. Children in elementary school were measured and estimated by their on-task actions and their off-task behaviours. On-task actions include questioning/pupil request, hand-raising, out-of-line remarks, listening, and talking; and off-task behaviours include withdrawal, problematic conduct, and hostility. The fore-mentioned dependent variables were characterised clearly and analysed by skillfully trained evaluators. The conceivable chair and desk arrangements were rows, circles, and clusters. The results of the study demonstrated that most on-task behaviours were exhibited by students seated in circles. The next best desk and chair arrangement was the cluster seating arrangement, and the least effective seating arrangement was the arrangement in rows. Variables such as gender and age influenced students' scoring as well.

Ventilation is a vital factor to be considered when achieving a functional and practical design in Architecture. It has been discovered medically that in a wholly buried space without any accessible means of fresh air from the surroundings to the inhabitants of that space, suffocation would occur and may lead to death or unconsciousness. Lewinski (2015) contends that temperature assumes a compelling role in the likelihood that we are to feel agreeable and serene while carrying out a task. The ideal temperature is most likely one that is barely detectable – neither excessively chilly nor excessively warm. Classroom temperature is another vital contributing factor to the academic performance of students. A significant factor contributing to the academic performance of students is the temperature of classrooms. Earthman (2012) featured the presence of prime temperature ranges for ideal learning outcomes. Additionally, Earthman (2012), discovered a relative humidity of 50% to be sufficient value for classrooms. A relationship between acoustics and temperature is in existence. Poorly maintained air conditioning systems and evident issues with maintenance of the classroom temperature, may deliver significantly uncomfortable and disturbing noise. Classrooms are often insufficiently ventilated, as discovered by past studies, resulting in an increased risk of negative impacts on the students. (Mumovic et al., 2009) The physical environment, in this way, influences teaching and learning. Measures that allow a minimum supply of fresh air to the classrooms of naturally ventilated buildings to enhance thermal comfort are needed, mainly if windows are not operated adequately to control ventilation. To achieve proper ventilation within a space, it is best to have the openings (windows adjacent to each other, thus allowing for cross ventilation which is the best method for achieving proper ventilation within learning, working, and living environment.

It is contended that the physical design of a school can add to the nature of the learning environment, although a couple of non-building factors likewise decide how well a given facility serves as a setting for educating and learning (Gislason, 2010). The facilities in the learning environment in this context refer to the drawing boards, stools, marker boards/smart boards, computers and other equipment that facilitate learning. School facilities impact student performance and teacher effectiveness. Issues with the thermal environment and noise level were present in older, more established facilities. The age of school buildings was therefore concluded to play a crucial part in students' performance. Results affirmed a connection between student performance and the quality and standard of school facilities.

Gap in literature

Learning environments are often designed without necessarily putting into consideration the users of sure space. Although, when humans are not satisfied with sure space, they do not appreciate them and thereby affecting their emotions and eventually for learnings environment, it affects the academic performance of such students. Perception of users is essential as it enables the design of a space to be appreciated. Hence, there is a need to provide an innovative way by which learning environments will be suitable for its users.

3 Research methods

The mixed approach includes a mix of the quantitative and qualitative approach in data gathering which helps a reliable derivation for compelling proposals and conclusions. Justification for the decision of this approach is on the grounds that the coordination of the qualitative and quantitative gives an increasingly intensive comprehension of the research problem instead of the utilization of one approach which frequently gives a solitary perspective. A questionnaire was created by the researchers who joined the natural factors that influence the learning condition. The questionnaire approach was embraced because it gives a uniform reason for social occasion high pace of reactions. The study area was randomly selected within schools of architecture, Southwest, Nigeria. The study area was randomly selected. The questionnaires were regulated by the researchers in a cross-sectional review of the understudies of design in Covenant University, Ota, Ogun State, Nigeria, in December 2019. The whole study population of 300, which spoke to undergraduates and postgraduates' students of the school of architecture, although, just 249 reacted to the questionnaire, having a percentage of 83% respondents. This is because the populace was not high. Plus, all the understudies were effectively open as they were across the board area. These understudies were spread over the four years undergrad and the two years' postgraduate (masters) levels. Data were broke down utilising Statistical Package for Social Science (SPSS). The information on respondents' profiles was broke down using descriptive statistics. Principal components analysis was to acquire the primary measurements that portray the impact of the learning environment on academic performance. The response was analyzed by objectives

4 Results and discussion

A total of 300 questionnaires were randomly disseminated to students of architecture in Covenant University and a total of 249 questionnaires were retrieved. Results and analysis of the retrieved responses for each of the sections of the questionnaire survey are discussed subsequently.

4.1 Section A: Demographic characteristics of respondents

The demographic characteristics of respondents were analysed based on their gender, age, and level of study and results are presented in Table 4.1.

		Percentages (%)
Gender	Male	58.2
	Female	41.8
Age	under 15	2.4
	16-19	62.7
	20-23	25.3
	24 and above	9.6
Level	100	19.3
	200	20.1
	300	17.3
	400	20.1

MSC I	12.0
MSC II	11.2

Analysis of responses based on the demographic characteristics of respondents in table 4.1 reveals the male respondents have greater responses amounting to 58.2% of the respondents while the female respondents amounted to 41.8%. This implies all genders being adequately represented in the survey which is reflective of the ratio of male to female students. Furthermore, their age distribution shows that 2.5% are under the age of 15, 62.7% are between the ages of 16-19, 25.3% are between the ages of 20-23 and 9.6% are from 24 and above.

Data for the highest educational qualifications attained by the respondents show that 19.3% are 100 level students, 20.1% are 200 level students, 17.3% are 300 level students, 20.1% are 400 level students, 12% are M.Sc. 1 and 11.2% are M.Sc. 2.

4.2 Section B: Perception of Students on the conditions and environmental factor of their Learning Environment

The questions posed in this section was gotten from literature to access the perception of students

This section poses questions to respondents based on the spatial design elements of their architectural studio using a five-point Likert scale ranging from 1= Very Poor (being the lowest), 2= Poor, 3= Fair, 4= Good and finally to 5= Very Good (being the highest).

	Percentage of response					Total
	1	2	3	4	5	
Natural ventilation in your studio	2.8	4.4	15.7	39.0	38.2	100
Artificial ventilation in your studio	6.0	5.6	28.9	40.2	19.3	100
The lighting condition in your studio	2.0	2.8	16.1	42.2	35.3	100
The amount of daylight entering your ample studio space.	0.8	6.0	12.0	42.2	39.0	100
The effectiveness of the light on your learning aids	2.4	6.8	26.1	40.6	23.3	100
How is the condition of sound quality in your studio	1.6	10.0	38.6	41.4	6.4	100
The quality of the type of furniture used in your studio.	10.4	20.1	39.4	23.7	5.2	100
The comfort of the level of the furniture used in your studio.	14.5	26.5	36.5	19.7	2.8	100
The comfort of the level of the furniture used in your studio.	4.0	15.7	40.2	34.1	6.0	100
The adequacy of space	1.2	15.7	38.2	32.5	11.6	100

From table 4.2, it can be inferred that greater percentage of people rated the element of natural ventilation in their studio being good at 39% and very good at 38.2% while very few people approved of their studio's ventilation being poor (4.4 %) and very poor (2.8%).

The greater percentage also shared the same high rate response for artificial ventilation in their studio being good at 40.2% while some rated it very well (19.3%) and fair (28.9%), Only a few numbers of people responded to the artificial ventilation being poor and very poor at 5.6% and 6% respectively.

A total of 77.5% respondents agreed to the lighting conditions in their studio being very good and good while a few disagreed and together they rated it poor and very poor at 4.8% while 16.1% rated it fair. The respondents were further asked to rate the amount of daylight entering

the studio if its good or poor and a total of 81.2% stated that it was good and very good while 6.8% agreed that it was poor and 12% agreed it was fair enough.

In the same vein, the effectiveness of the amount of light entering the studio on the learning aids of the student was questioned and a total of 63.9% rated the effectiveness as good and very good while some said it was ineffective hence, they gave a poor rating of 6.8% and very poor 2.4% while some were undecided, hence a fair rating at 26.1%.

The quality of sound was also questioned and a high response rate was given for very good quality at 41.4% and 38.6% rated it fair because they were undecided while the remaining responses were very poor at 1.6% and poor at 10%. Parameters like the quality of studio furniture were also questioned with a high response rate of 39.4% at being fair while the subsequent larger response rated it at being good (23.7%). The comfort level of the furniture was further researched into and responses proved that 40.2% were indifferent about the type of furniture being used hence rating it fair while 34.1% rated their studio's furniture as being good while a total of 19.7% rated it as being poor. Adequacy of available space in the studio was also inquired of and 38.2% rated it fair while 32.5% and 11.6% rated it good and very good respectively.



Plate 1: The undergraduate design studio showing the spatial arrangement, ventilation techniques, facilities and teaching aids

Source: Field Study (2019)



Plate 2: The Postgraduate design studio showing the spatial arrangement, ventilation techniques, facilities and teaching aids

Source: Field Study (2019)

Conclusively, it can be generally inferred from this section that; the parameters of natural and artificial ventilation, lighting conditions and its effectiveness, sound quality, spatial adequacy, quality of furniture available as well as its comfort level are all perceived to be in good conditions and to be positively effective in their learning aids.

4.3 Section C: Perception of Effects and Impacts of the Elements

4.3.1 In relation to their Learning Abilities

This section poses questions to respondents based on the perception of spatial design elements on their learning abilities such as their moods, concentration level as well as their comfort in the architectural studio using a five-point Likert scale ranging from 1= Strongly disagree 2= Disagree, 3= Undecided, 4= Agree, to 5= strongly Agree.

Variables	Percentage of response					Total
	1	2	3	4	5	
Colour used to affect your mood	11.2	12.0	32.5	23.3	20.9	249
Colour used to affect your concentration	12.0	16.5	27.3	27.7	16.5	249
Ventilation technique used to affect your comfort	4.0	9.6	9.2	38.6	38.6	249
Lighting technique affect your concentration	6.0	9.2	24.1	32.5	28.1	249
Sound quality affect concentration	3.6	8.8	22.1	41.8	23.7	249
Facilities and learning aids affect concentration	9.2	17.7	17.7	30.9	31.4	249

From table 4.3 (a), it can be inferred that greater percentage of people at 23.3% and 20.9%, agreed and strongly agreed respectively to the colour of their studio having a great impact on their mood while a total of 23.2% disagreed and 32.5% were undecided. Also, a total of 44.2%

agreed that the colour also affects their concentration by causing a distraction, while 27.3% were undecided and 28.5% disagreed.

Ventilation technique also affected the comfort of so many as a total of 77.2% agreed to this while the rest were undecided and disagreed. Asides colour of the studio and ventilation another element of consideration was lighting technique adopted in the studio and a total of 60.6% agreed that this parameter also affected their concentration level and 24.1% were undecided and 15.2% disagreed. In the same vein, a total high response rate at 65.5% also agreed to sound quality affecting their concentration level while the rest were either undecided (22.1%) and disagreed (11.6%). Learning facilities also played a role in impacting the student's concentration in the studio as a total of 53.8% agreed to this and 17.7% were undecided about this and a total of 26.9% disagreed to this.

4.3.2 In relation to their Academic Performance

According to the academic performance analysis and the CGPA of students after the just concluded semester in the selected school the 100 level students have the highest number of first-class, they also have the majority of the second class upper students, while the 300 level and MSC 1 students have the majority of the second class lower students, the MSC 2 students have the majority of the third class students.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.084	.007	-.018	.787	.007	.280	6	234	.946

Predictors: (Constant), Facilities and learning aids affect academic performance, Lighting technique affect your academic performance, Sound quality affect academic performance, Colour used affect your academic performance, Ventilation technique used affect your academic performance, Colour used affect your academic performance

The strongest variable that affects the academic performance of students is the ventilation technique used (Beta=0.064), with nest strongest factor as Lighting technique (beta=0.032). other factors that affects academic performance are Facilities and learning aids (beta=0.025), Sound quality (beta=0.017), Colour used (beta=-0.035). the p-value is considered significant at $p \leq 0.05$ level. This asserts the significance of all factors stated have effects on students' academic performance.

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	1.994	.198		10.094	.000
	Colour used affect your academic performance	-.025	.082	-.035	-.299	.765
	Ventilation technique used affect your academic performance	.040	.058	.064	.680	.497
	Lighting technique affect your academic performance	.023	.060	.032	.380	.705
	Sound quality affect academic performance	.012	.055	.017	.216	.829
	Facilities and learning aids affect academic performance	.017	.057	.025	.304	.761

Conclusively, it can be generally inferred that the academic environment plays a significant impact on influencing architectural students' performance as well as impacting their learning

abilities. Justification for this rests on the high response rate of students either agreeing or strongly agreeing to this and a relatively minimal number seeming undecided or disagreeing to this.

5 Conclusion and Recommendations

The research assessed the physical environment of the architectural design studio and its impact on academic performance, intending to make improvements that will benefit the teaching and learning of the students. From literature, it can be inferred that students' academic performance can be affected by the physical environment. The study assessed the physical environment of architectural design studios in Covenant University, Ota, Ogun State. Conclusively, the characteristics of the students show that majority of the students are within the age range of 16-19 and majority are male students, the parameters selected are perceived to be in good condition and useful in learning aid and academic performance, the general academic environment on the students' performance. Although the research findings have shown that the physical components of the classroom learning environment affect but have no direct impact on the students' academic performance, based on the research it is recommended that visual learning aid should be maximised. Also, the classroom facilities should be improved to encourage the student to make use of their classrooms. In conclusion, the classroom environment does not have a direct impact on the student's academic performance, however, the perception of students on these components should be explored to create a comfortable classroom environment.

Acknowledgement

I will like to thank the management of Covenant University Center for Research, Innovation Discovery (CUCRID) for funding this research. And most importantly, I thank God for the grace to carry out this research. All glory be to Him.

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